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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIM, DANIEL Y

ART UNIT	PAPER NUMBER
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2185

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/784,430	CLAUDE ET AL.	
	Examiner	Art Unit	
	Daniel Kim	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 28 is objected to because of the following informalities: In line 9, there appears to be a typographical error in the use of the word "in" within the phrase "data words in greater than a predetermined threshold". It appears that this word should be changed to "is". Appropriate correction is required.

Information Disclosure Statement

2. The information disclosure statement filed February 23, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specifically, the French Search Report from French Patent Application 03/02230, filed February 24, 2003, seems to be missing. The applicant is required to provide this non-patent literature in order for the Information Disclosure Statement to be considered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2185

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5-11, 16-18, 20-24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endoh et al (US Patent No. 5,602,789), Lee et al (US Patent No. 5,781,485) and Epstein (US PGPub No. 20040139074).

For claim 1, Endoh discloses a device for selecting an operating mode of an integrated circuit, comprising:

a ROM storing at least one predetermined value formed of data words (electrically erasable programmable read-only memory, col. 8, lines 19-20; predetermined data is written to the memory, col. 5, lines 14-15);

a non-volatile programmable memory controllable to store said predetermined value (programmable, non-volatile, multi-level memory system, col. 1, lines 23-24; predetermined data is written to the memory, col. 5, lines 14-15); and

a comparator indicating how many data words of the value stored in the programmable memory are identical to the data words of the predetermined value (a comparator compares a data with read data supplied from a sense amplifier circuit during a verify period, to detect whether or not these are potentially coincident with each other, col. 10, lines 53-56).

Despite these teachings, Endoh fails to disclose deactivating a selection signal for selecting an operating mode in relation to a predetermined threshold.

Lee, however, discloses an apparatus for controlling an operating mode in a semiconductor memory device, a user mode decoder is comprised with the same number of user decoders as the number of user modes capable of being performed,

Art Unit: 2185

and a test mode decoder is comprised of the same number of test decoders as the number of test modes capable of being performed in the semiconductor memory device, and operation is activated or deactivated by a test ending signal (col. 3, lines 63-67 and col. 4, lines 1-29).

The combined teachings of Endoh and Lee still fail to disclose a predetermined threshold.

Epstein, however, discloses within the scope of a particularly variable search of data, an output signal may be comparable with a threshold value using a component executing a comparing operation, such as a comparator, and a threshold value could be variably specifiable and could be configured such that it specifies the percentage with which the data searching within the current cycle corresponds to the data sought (par. 0019).

Endoh, Lee and Epstein are analogous art in that they are of the same field of endeavor, that is, a system and/or method of memory control. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include deactivating a selection signal for selecting an operating mode in relation to a predetermined threshold because this would prevent use of any other operating mode than intended (col. 2, lines 45-48), as taught by Lee.

For claim 5, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 1 above. Epstein further discloses the threshold corresponds to from 70% to 90% of the number of compared words (within the scope of a particularly variable search of data, the output signal of an adder may be comparable

Art Unit: 2185

with a threshold value using a component executing a comparing operation, such as a comparator, and a threshold value could be variably specifiable and could be configured such that it specifies the percentage with which the data searching within the current cycle corresponds to the data sought, par. 0019).

For claim 6, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 1 above. Lee further discloses a functional block provided to operate in a first operating mode when the selection signal is activated and to operate in a second operating mode otherwise, the functional block enabling controlling the programmable memory to store the predetermined value (an apparatus for controlling an operating mode in a semiconductor memory device, a user mode decoder is comprised with the same number of user decoders as the number of user modes capable of being performed, and a test mode decoder is comprised of the same number of test decoders as the number of test modes capable of being performed in the semiconductor memory device, and operation is activated or deactivated by a test ending signal, col. 3, lines 63-67 and col. 4, lines 1-29).

Claim 7 is rejected using the same rationale as for the rejections of claims 1 and 6 above.

Claim 8 is rejected is rejected using the same rationale as for the rejections of claims 5 and 7 above.

For claim 9, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 1 above. Lee further discloses preventing storage of a value other than the predetermined value in the programmable memory (an apparatus

and method for controlling an operating mode so as to prevent a user from entering any other operating mode except a user mode, providing a stable operating mode by blocking entry into a test mode during a user mode, preventing the prosecution of a test mode command during a user mode, col. 2, lines 45-60).

Claim 10 is rejected is rejected using the same rationale as for the rejections of claims 3 and 9 above.

Claim 11 is rejected is rejected using the same rationale as for the rejection of claim 1 above.

Claim 16 is rejected using the same rationale as for the rejections of claims 5 and 11 above.

Claim 17 is rejected using the same rationale as for the rejection of claim 11 above.

Claim 18 is rejected using the same rationale as for the rejection of claim 11 above.

For claim 20, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 11 above. Epstein further discloses byte-to-byte identity of data words (a comparator could compare data bit for bit and, in the event of match, would generate an output signal, par. 0014; an adder could be created from cascaded modules, for adding a plurality of output signals from comparators for a number of characters or character combinations to be compared, par. 0018).

Claim 21 is rejected using the same rationale as for the rejection of claim 20 above.

Claim 22 is rejected using the same rationale as for the rejection of claims 1 and 6 above.

Claim 23 is rejected using the same rationale as for the rejection of claims 6 and 7 above.

Claim 24 is rejected using the same rationale as for the rejection of claim 1 above.

For claim 26, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 24 above. Epstein further discloses a software control (software for the search of data, generally implemented through the sequential processing of a program with a computer, par. 0002).

For claim 27, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 24 above. Epstein further discloses a hardware control (a search of data can yield a substantially faster search if the search is implemented through hardware, par. 0006).

Claim 28 is rejected using the same rationale as for the rejection of claim 1 above.

5. Claims 2 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endoh et al (US Patent No. 5,602,789), Lee et al (US Patent No. 5,781,485), Epstein (US PGPub No. 20040139074) and Itoh et al (US Patent No. 6,762,951).

For claim 2, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 1 above

Endoh further discloses the value stored in the programmable memory varies with time (write-data to be programmed will be varied, col. 2, line 19).

These teachings fail to disclose rewriting at intervals the predetermined value into the programmable memory.

Itoh, however, discloses a semiconductor integrated circuit device in which a rewrite operation is performed periodically on a memory cell (col. 1, lines 35-36).

Endoh, Lee, Epstein and Itoh are analogous art in that they are of the same field of endeavor, that is, a system and/or method of memory control. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include rewriting at intervals because information charge stored in capacitors are lost due to leakage current in memory cells, and a rewrite operation performed periodically would retain the memory information stored therein (col. 1, lines 32-37), as taught by Itoh.

Claim 25 is rejected using the same rationale as for the rejection of claims 2 and 24 above.

6. Claims 3-4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endoh et al (US Patent No. 5,602,789), Lee et al (US Patent No. 5,781,485), Epstein (US PGPub No. 20040139074), Itoh et al (US Patent No. 6,762,951) and Schinner (US Patent No. 6,989, 861).

For claim 3, the combined teachings of Endoh, Lee, Epstein and Itoh disclose the invention as per rejection of claim 2 above. These teachings fail to disclose rewriting a

predetermined value into programmable memory upon each powering-on of the integrated circuit when the selection signal is deactivated.

Schinner, however, discloses a volatile memory section maybe include copies of power-on variables from a user-programmable non-volatile memory section, and the copies may be read into the volatile memory section at every power-on (col. 3, lines 41-44).

Endoh, Lee, Epstein, Itoh and Schinner are analogous art in that they are of the same field of endeavor, that is, a system and/or method of memory control. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include rewriting upon each powering-on because this would speed read times of mode variables (col. 3, lines 44-45), as taught by Schinner.

For claim 4, the combined teachings of Endoh, Lee, Epstein, Itoh and Schinner disclose the invention as per rejection of claim 3 above. Schinner further discloses said writing means, the comparator, and the control means are implemented in software form by a microprocessor (the memory may store a software program to be executed by the processor, col. 3, lines 16-17).

Claim 19 is rejected using the same rationale as for the rejection of claims 1 and 3 above.

7. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endoh et al (US Patent No. 5,602,789), Lee et al (US Patent No. 5,781,485), Epstein (US PGPub No. 20040139074) and Hayashi et al (US Patent No. 6,628,542).

For claim 12, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 11 above. These teachings fail to disclose enable rewriting of a programmable memory.

Hayashi, however, discloses enabling a rewrite operation by a write magnetic field (col. 6, lines 27-28).

Endoh, Lee, Epstein and Hayashi are analogous art in that they are of the same field of endeavor, that is, a system and/or method of memory control. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include enabling a rewrite because in a magnetic memory using a magnetoresistive device, there may occur problems that information to be stored cannot be written to the memory or that written information is dissipated, so there is needed a system that isn't affected by a leakage magnetic field, and a means and method of magnetization reversal to be performed to stably hold magnetized information stored in a recording layer (col. 2, lines 11-24), as taught by Hayashi.

Claim 13 is rejected using the same rationale as for the rejections of claims 3 and 12 above.

Claim 14 is rejected using the same rationale as for the rejections of claims 2 and 12 above.

For claim 15, the combined teachings of Endoh, Lee and Epstein disclose the invention as per rejection of claim 11 above. These teachings fail to disclose a ferromagnetic memory.

Hayashi, however, discloses a magnetoresistive device and magnetic memory including a first magnetic layer made of a ferromagnetic having a low coercive force and perpendicular magnetic anisotropy, and a second magnetic layer made of a ferromagnetic having a high coercive force and perpendicular magnetic anisotropy (col. 3, lines 50-54).

Endoh, Lee, Epstein and Hayashi are analogous art in that they are of the same field of endeavor, that is, a system and/or method of memory control. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a ferromagnetic memory because this would allow magnetization information to be recorded correctly and maintained stably (col. 3, lines 37-39), and because this would reduce effects of end-portion magnetic poles, thereby reducing the disturbance due to leaked magnetic fields, so that perpendicular magnetization state is stably held (col. 3, lines 45-48), as taught by Hayashi.

Citation of Pertinent Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takano (US Patent No. 6,075,738) discloses a non-volatile semiconductor memory device including a programmable read only memory and an operation mode selection.

Takada (US Patent No. 5,546,578) discloses a database retrieval system including a comparator that compares data records with a threshold value.

Art Unit: 2185

Shinozaki et al (US Patent No. 5,812,491) discloses a control circuit for a semiconductor device includes an operating mode signal and selection signal.


Contact Information

9. Any inquiries concerning this action or earlier actions from the examiner should be directed to Daniel Kim, reachable at 571-272-2742, on Mon-Fri from 8:30am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan, is also reachable at 571-272-4210.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information from published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. All questions regarding access to the Private PAIR system should be directed to the Electronic Business Center (EBC), reachable at 866-217-9197.

DK

4-10-06


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